from sewage disposal are not removed or delayed by travel through the aquifer. Moreover, the major class of contaminants of concern in the county, synthetic volatile organic compounds, undergoes very little degradation in the ground water system. In view of this information, the travel time was viewed as arbitrary. The initial zones were also found to be too small, as they did not protect all the recharge area within the zone of influence of the wellfields.

Long-range plans for Dade County's water supply call for the eventual abandonment of most existing municipal wellfields and use of only three major county wellfields, one of which is new. Since 1983 the Department of Environmental Resources Management (DERM) has conducted a comprehensive study to formulate a management plan for the three major wellfields that will supply the county with its future water supply. The county felt that the original ordinance was not adequate to protect the pristine character of one of the relatively undeveloped wellfields, particularly in view of the pressures for industrial development in the area. The widespread nature of organic chemical contamination also contributed to the concern that the original ordinance was not adequate.

To investigate this concern, the county formed a special study group that evaluated causes and influence of contamination in the wells and found that very low or moderate levels (range of 0.1 to 4.6 ppb total) of volatile organ-ics were detected when ground water flowed through residential, commercial, institutional, recreational, and utility and transportation land uses and inland water. Ground water flowing through industrial areas had higher levels than in any other type of land use (13.1 to 57.3 ppb). These data were useful in gaining support for a revised version of the ordinance that would place prohibitions on industry throughout substantially larger cones of influence than mapped in the original program. The study also evaluated the cost and availability of treatment technologies for contaminated drinking water supplies as an alternative to prevention. Finally, alternative methods of delineating cones of depression based on different surface water and ground water use scenarios were evaluated.

Once the revised wellfield protection areas were identified, it became apparent that the prohibition on all storage, handling, generation, and discharge of hazardous materials would affect very large areas. It would essentially eliminate industry throughout the 82.5-square-mile protection area designated for one of the wellfields. In addition, the prohibition did not address the existing industrial uses within two of the wellfields. The ordinance was therefore revised to allow certain uses that employ small volumes of materials under carefully controlled conditions. Additional amendments were made to require connection to public sewers and for setting minimum